

**CLAIMS**

It is claimed:

1. A tuning circuit having an amplitude-varying function comprising:
  - a coil;
  - a capacitor; and
  - a resistance-adjusting element connected in parallel to said coil and said capacitor for varying resistance at time of resonance of said tuning circuit, wherein
    - an amplitude of an output signal of said tuning circuit is varied by varying said resistance with said resistance-adjusting element.
2. The tuning circuit having an amplitude-varying function according to claim 1, wherein
  - said resistance-adjusting element comprises a transistor, said resistance-adjusting element varying a voltage applied to a control electrode of said transistor in order to vary said resistance.
3. The tuning circuit having an amplitude-varying function according to claim 1, wherein
  - said resistance-adjusting element comprises a transistor, said resistance-adjusting element switching ON and OFF said transistor in order to vary said resistance.
4. The tuning circuit having an amplitude-varying function according to claim 3, further

comprising an automatic adjustment circuit system that includes:

a comparator that varies an output when said amplitude of said output signal of said tuning circuit exceeds an automatic adjustment-use reference amplitude level; and  
a transistor drive-use digital circuit that outputs, in response to said variance in said output of said comparator, a digital drive signal for varying said voltage applied to said control electrode of said transistor.

5. The tuning circuit having an amplitude-varying function according to claim 1,

wherein

a predetermined reference voltage is applied to respective ends of said coil and of said capacitor making up said tuning circuit, and wherein  
an alternating current signal resonated by said tuning circuit is outputted from other ends of said coil and of said capacitor.

6. The tuning circuit having an amplitude-varying function according to claim 1,

wherein

respective ends of said coil and of said capacitor making up said tuning circuit are grounded, and wherein  
an alternating current signal resonated by said tuning circuit is outputted from other ends of said coil and of said capacitor.